Adopt-A-MACT
Compliance Tool

Polymers and Resins IV
(40 C.F.R. Part 63 Subpart JJJ)

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Polymers and Resins IV Inspection Tool

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List of Questions and Answers for General Applicability

General Applicability

National Emission Standards for Hazardous Air Pollutants: Group IV Polymers and Resins. 40 C.F.R. Part 63 Subpart JJJ

Q: Do I have an affected source(s)?

subquestion 1: Am I a major source? [Yes] [No]

A major source is defined as a facility that can potentially emit $10 tons per year (tpy) of a single hazardous air pollutant (HAP) or $25 tpy of any combination of HAPs. If your facility has federally enforceable permit limits restricting your emissions below 10 tpy of a single HAP or 25 tpy of any combination of HAPs your facility is not a major source, provided that you are in compliance with your permit limits.

A list of the 188 HAPs can be found at:

http://www.epa.gov/ttn/uatw/188polls.txt

subquestion 2: Do I produce a thermoplastic product? [Yes] [No]

The following products are considered thermoplastics:

Acrylonitrile butadiene styrene latex (ABS latex)

Acrylonitrile butadiene styrene resin (ABS)

-when produced using a batch emulsion process, a continuous emulsion process, or a continuous mass process.

Acrylonitrile styrene acrylate resin (ASA)

Alpha methyl styrene acrylonitrile resin (AMSAN)

Expandable polystyrene (EPS)

Methyl methacrylate acrylonitrile butadiene styrene resin (MABS)

Methyl methacrylate butadiene styrene resin (MBS)

Nitrile resin

Poly(ethylene terephthalate) (PET)

S when using a batch dimethyl terephthalate process, a batch terephthalate acid process, a continuous dimethyl terephthalate process, a continuous terephthalic acid process, or using a continuous terephthalic acid high viscosity multiple end finisher process.

Polystyrene resin

S when using a batch or continuous process

Styrene acrylonitrile resin

S when using a batch process or continuous process.

subquestion 3: Do I have a thermoplastic product process unit(s) (TPPU(s))? [Yes] [No]

A TPPU is a collection of equipment assembled and connected by process pipes or ducts used to process raw materials and manufacture a thermoplastic product as its primary product.

If the process unit makes only one product; that product is considered the primary product.

If the unit produces more than one product the primary product shall be determined by one of the following two methods:

A) The product for which the process unit has the greatest annual design capacity on a mass basis is the primary product; or

B) If the process unit has the same maximum annual design capacity for two or more products and one product is a thermoplastic product, then the thermoplastic product is considered the primary product.

subquestion 3a: Do I have a TPPU that is a flexible operation unit? [Yes] [No]

A flexible operation unit is considered a unit that manufactures different chemical products periodically by alternating raw materials or operating conditions. These units can also be referred to as campaign plants or blocked operations.

The primary product of a flexible operation unit shall be determined using the anticipated production for the five years following September 12, 1996 if considered an existing unit (please see next section for definition of existing unit) or the anticipated production for the first year of production if considered a new unit.

A) If the flexible operation unit will manufacture one product for the greatest operating time over the specified five years or one year time period, then that product is considered the primary product.

B) If the flexible operation unit manufactures multiple products equally based on operating time, then the product with the greatest expected production on a mass basis shall be considered the primary product.

subquestion 3b: Do I have an exempted TPPU? [Yes] [No]

Your TPPU is not considered an affected source it must not use as a reactant, solvent, or produce, as a byproduct or coproduct, any organic HAP. If you have

decided that your TPPU is not an affected source you must retain information, data, and any analysis done to document the basis for the exemption. Examples of information inlcude: chemical purchasing records for the exempted TPPU, chemical analysis of process streams, or engineering calculations. Also, if requested by the Administrator, you must be able to demonstrate that the TPPU meets the requirements for an exempted unit.

If you answered yes to subquestions 1-3 then you have and affected source(s) at the facility!

Q: Do I have a new affected source(s) or an existing affected source(s)?

A new affected source is each group of one or more TPPUs and associated equipment in any of the following situations:

A) A construction of a group of one or more TPPUs commenced after March 29, 1995 and the group has the potential to emit 10 toy of a single HAP or 25 tpy of a combination of HAPs (The group of TPPUs can be considered a major source by themselves). In addition the primary product (thermoplastic) of the group must be currently be a primary product of an affected source at the facility.

B) A construction of a group of one or more TPPUs beginning after March 29, 1995 and the group has a primary product that was **not** the primary product of an affected source at the plant. The site must also be considered a major source or will be considered a major source after the construction is complete.

C) The construction or reconstruction for process units that have become TPPUs commenced after March 29, 1995 and the process units have the potential to emit 10 tpy of a single HAP or 25 tpy of a combination of HAPS (The process units can be considered a major source by themselves). In addition the primary product (thermoplastic) of the group must be currently be a primary product of an affected source at the facility.

D) The construction or reconstruction for process units that have become TPPUs commenced after March 29, 1995 and the process units have a primary product that was **not** the primary product of an affected source at the plant. The plant must also be considered a major source or will be considered a major source after the construction is complete.

E) If any process change or addition is made to an existing affected source after March 29, 1995. The existing source shall be reclassified as a new affected source, if the process change meets the the source is considered a reconstruction unless all the following criteria from I) or II) is met. Sources that meet the exemptions will be considered existing sources.

I. Process changes that result in one or more Group 1 emission points:

a) is from an existing affected source producing PET
b) the PET is made using a continuous dimethyl terephthalate process
c) the increase in baseline emissions (emissions prior to applying controls for purposes of complying with the rule) is # 0.12 kg Organic HAP per Mg of product.

II Process changes that result in any other emission point(s) (i.e. group 2 or equipment leak components) that are not considered reconstructions.

An existing affected source is each group of one or more TPPUs and associated equipment in any of the following situations:

A) A TPPU constructed prior to March 29, 1995 at an existing major source built before March 29, 1995.

B) Anything not considered a new affected source, at a major source. (e.g.

a new TPPU with PTE less than 10 tpy of a single HAP or 25 tpy of a combination of HAPs (not major within itself) and producing a primary product already produced as a primary product from an existing TPPU at a major facility)

Q: So I have an existing affected source, when do I need to be in compliance?

There are numerous compliance dates for an existing affected source. To make things easier, lets first identify what type of thermoplastic product you make. Please select from one of the following two options.

Everything except for PET products

PET using a continuous terephthalic acid high viscosity multiple end finisher process

All other PET products

For everyone that doesn't make PET. We've divided the requirements into two categories. Fugitive Emissions and Process Emissions.

Fugitive emissions are emissions released from equipment leaks. Equipment leaks are defined as emissions of organic hazardous air pollutants from a pump, compressor, agitator, pressure relief device, sampling connection system, open-ended valve or line, valve, surge control vessel, bottoms receiver, or instrumentation system in organic hazardous air pollutant service. The requirements for equipment leaks are found in 40 C.F.R. 63.1331. Existing sources are required to be in compliance with these standards by June 19, 2001 unless an exception applies or an extension has been granted.

Process Emissions are emissions that are associated with the TPPU. Emission standards exist for storage vessels, continuous process vents, batch process vents, heat exchange systems, process contact cooling towers, and wastewater. Existing

sources are required to be in compliance with these standards by June 19, 2001.

For PET producers using a continuous terephthalic acid high viscosity multiple end finisher process. Fugitive emissions are emissions released from equipment leaks. Equipment leaks are defined as emissions of organic hazardous air pollutants from a pump, compressor, agitator, pressure relief device, sampling connection system, open-ended valve or line, valve, surge control vessel, bottoms receiver, or instrumentation system in organic hazardous air pollutant service. The requirements for equipment leaks are found in 40 C.F.R. 63.1331. Leak Detection standards for all units (except process contact cooling towers) are required to be in compliance by August 6, 2002. For process contact cooling towers the compliance date is indefinitely stayed.

Process Emissions are emissions associated with the TPPU. Emission standards exist for storage vessels, continuous process vents, batch process vents, heat exchange system, process contact cooling towers, and wastewater. Existing sources are required to be in compliance with these standards by June 19, 2001.

For all other PET producers. Fugitive emissions are emissions released from equipment leaks. Equipment leaks are defined as emissions of organic hazardous air pollutants from a pump, compressor, agitator, pressure relief device, sampling connection system, open-ended valve or line, valve, surge control vessel, bottoms receiver, or instrumentation system in organic hazardous air pollutant service. The requirements for equipment leaks are found in 40 C.F.R. 63.1331. Existing sources are required to be in compliance with these standards by August 6, 2002

Process Emissions are emissions associated with the TPPU. Emission standards exist for storage vessels, continuous process vents, batch process vents, heat exchange system process contact cooling towers, and waste water. Existing sources are required to be in compliance with these standards by June 19, 2001.

Q: So I have a new affected source, when do I need to be in compliance?

New affected sources are required to be in compliance with this subpart upon initial start-up or June 19, 2000, whichever is later. However, if the primary product of the new affected source is PET, you are required to be in compliance upon

initial start-up or February 27, 2001, whichever is later.

Q: What makes up my affected source?

An existing affected source is each group of one or more TPPU's that manufactures the same primary product. For example, if the exisiting plant KLM has 7 existing TPPUs and 3 of them make polystyrene, two make ABS latex, and 2 manufacture EPS. The facility has 3 affected sources. In addition to the TPPU, the affected source also includes each wastewater stream, wastewater operation, heat exchange system associated with the group of TPPU.

The following emission points are exempted from the affected source:

1) Equipment that does not contain organic HAP and is located within a TPPU that is part of an affected source.
2) Stormwater from segregated sewers.
3) Water from fire-fighting and deluge systems in segregated sewers
4) Spills
5) Water from safety showers
6) Water from testing of deluge systems
7) Water from testing of fire-fighting equipment
8) Vessels and equipment storing and/or handling material that contain no organic HAP and/or organic HAP as impurities only.

9) Equipment that is intended to operate in HAP service for less than 300 hours during the calendar year.

There are also certain processes exempted from an affected source, these are:

1) Research and development facilities
2) Polymerization processes occurring in a mold
3) Processes which manufacture binder systems containing a thermoplastic product for paints, coatings, or adhesives
4) Finishing processes including equipment such as compounding units, spinning units, drawing units, extruding units, and other finishing steps

5) Solid state polymerization processes.